

What is claimed is:

- 1 1. A method for operating an I/O channel of a
2 computer system, comprising the steps of:
3 Providing a plurality of modes including:
4 a new high function mode operating as a new
5 peer mode with respect to its attached channel at
6 the opposite end of a link; and
7 an old compatibility mode operating through a
8 converter to multiple sender and/or receiver
9 channels connected at the opposite end of the
10 converter sink ports, and
11 operating the channel when said new peer mode
12 is directly connected to another identical channel
13 operating in the same said new peer mode.
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15 2. The method as recited in claim 1, wherein the
16 channel operating in the new peer mode uses all of
17 its message passing resources to exchange the
18 maximum number of messages concurrently as
19 possible. 112?
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21 3. The method as recited in claim 1, wherein the
 channel operates in a second old compatibility mode
 and is attached to a converter that allows further
 attachment to a plurality of older systems'
 2) channels.

 4. The method as recited in claim 1, wherein the
 channel operating in said second old compatibility
 mode divides its message passing resources among
 30 the multiple sink ports of said converter.

 5. The method as recited in claim 5, wherein said

converter comprises the functions:

keeps no state information;

35 adjusts differences in line speeds between the source and sink ports;

routes outbound packets to the correct sink port; and

adds source information to inbound packets.

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6. The method as recited in claim 1, wherein the channel operating in said old ^{SP}comparability mode appears to the software as a plurality of independent channels operating in the old mode.

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7. The method as recited in [?]claim 7, wherein the channel operating in the old compatibility mode processes commands from the software giving the illusion of multiple separate old channels.

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8. The method as recited in claim 7, wherein the channel operating in the old compatibility mode presents interruption, busy, state, and error information to the software giving the illusion of having a plurality of separate channels operating in the old mode.

9. The method as recited in claim 1, wherein the channel operating in the old compatibility mode provides a plurality of independent sequence numbers, one pair for each converter sink port.